Perchlorate Community Advisory Group

Meeting Minutes

Thursday, June 29, 2006
7:00 PM

I. **Pledge:** Ms. Sylvia Hamilton, PCAG Chair, led the Pledge of Allegiance

II. **Administrative Items:**

A. ***Attendee Sign-In Sheet:*** Sylvia explained that copies of the agenda, meeting minutes, and attendee sign-in sheets are on back table. She strongly encouraged people to add their name and contact information to the interested parties list so they can receive copies of meeting minutes and agenda and stay informed on the perchlorate issue.

Ms. Hamilton also added Agenda Item III.C on Bottled Water.

B. ***Introductions*** – Michelle Lloyd, SCVWD; Special Guests Mr. Curt Richards, Vice President Olin Corp. and Mike Taraszki, MACTEC Consulting.

C. ***Open Forum*** - None

D. ***May 5, 2006 meeting minutes*:** approved as written

E. ***Olin's Monthly Progress Reports*:** Ms. Hamilton announced that Olin's monthly report is being sent out to all PCAG e-mail lists and the SMNA website (www.smneighbor.org). In addition, she thanked Tracy Hemmeter and Swanee Edwards for cookies and refreshments, the Tomlinsons for the coffee set-up, Terry, Bob and Jerry for setting up the tables and chairs, the Lions Club for the facilities, and community members for attendance.

III. **Presentations/Discussions:**

A. ***PCAG Meeting Protocol***: Ms. Hamilton addressed the community on PCAG rules of conduct. (Refer to the PCAG Meeting Protocol.)

B. ***MACTEC Presentation*** **(Mike Taraszki)** – Please see attached PowerPoint presentation.

1. **Basin Characterization Report**

Mr. Taraszki used PowerPoint slides to describe the general characteristics of the Llagas Groundwater subbasin and its location.

He also discussed different types of monitoring wells they are installing, including the use of wells with single screened intervals that monitor a single aquifer and CMT wells, which have a single casing with several screened intervals that each monitor a separate aquifer zone.

Q: I see that the well casings are at different levels (on the example). Is the idea to have the casing at different levels?

A: Taraszki: Yes, the well casings are done at different levels to draw different samples. Some are down to 250 (feet), and then backfilled to the screen filtering. There can be up to 9 discreet samplings per location.

Mr. Taraszki explained the sonic drilling method they use enables them to observe and record almost undisturbed geologic conditions down to a depth of up to 570 feet. Then, he showed several pictures and described how the monitoring wells are constructed. They also perform "slug tests," by pressurizing then releasing water in the borehole, to determine aquifer permeability. He reported that the shallow aquifer (down to about 50 – 55 feet) is most permeable. The intermediate aquifer (70 to 200 feet), where most wells are constructed, is also permeable. The deep aquifer (200-500 feet) is not as frequently used for wells. He also reported that Coyote Creek used to, way back in time, flow south to the Pajaro River.

Mr. Taraszki explained that groundwater elevations are an important part of the characterization. Groundwater generally flows downhill, from high pressure to low pressure. He showed a figure illustrating an area where pressures are highest in the shallow aquifer and lowest in the deep aquifer and water is moving vertically from shallow to deep aquifers. He also explained that water flows "side to side," and used groundwater contour maps to illustrate that groundwater generally flows south from Morgan Hill toward Gilroy and then the Pajaro River.

Mr. Taraszki showed maps of imported water percentages in groundwater, nitrate concentrations, perchlorate concentrations. He reported that imported water percentages are high in the shallow aquifer and near the site in the intermediate aquifer (near Santa Clara Valley Water District groundwater recharge facilities). Nitrate concentrations are the highest in the shallow aquifer, which is common in areas with agricultural land use. Mr. Taraszki explained that nitrate concentrations in the intermediate aquifer are low near recharge facilities, but high in some areas. The deep aquifer isn't as impacted. Perchlorate concentrations are highest closest to the site and are also deep below the site.

Q: Madrone Perc ponds – Is that imported water? I thought it came from Anderson Dam.

A: Taraszki: Yes, that is imported water. In 1987, the water from Anderson dam was shut off and now comes in from the Sierras. The imported water gives us a very good quality water to offset the consumption levels.

Q. Since we are finding Perchlorate in the deep aquifer – is it the way (the water is) flowing or the depth of the soil that determines the amount of perchlorate that is being detected?

A. Taraszki: That is one of the things we are studying. There is a strong downward gradient near the site. Because this is a recharge area (where percolation pressurizes the shallow zone) and there is deep pumping, there is a pressure driver to move contamination down. But, the soils are also controlling flow. There are lots of silt lenses, which slow water down, but wells cut through those silt lenses.

Q. How high are concentrations in the deep aquifer?
A. Taraszki: About 50 ppb south of Fisher Avenue.

2. **Plume Migration Control Assessment**

Mr. Taraszki explained the original idea was to look at wells southeast of Gilroy to capture the perchlorate plume. But, concentrations are dropping. They divided the basin into four areas based on perchlorate concentrations and groundwater flow. Area I (defined as the area just south of the Olin site, bounded by 101 and Monterey Highway) has been MACTEC's main focus of investigation and where concentrations are highest. Imported water is diluting concentrations in Areas II and III.

Q: Can you point out the Church Avenue ponds and Southern areas?
A: Mr. Taraszki used the pointer to point out the Church Ponds and Pacheco Pass Highway on the PowerPoint slides.

Q. In Area I, are there other wells being used besides the Tennant Avenue wells?
A. Taraszki: Yes, there are other wells. They are getting bottled water or treatment.

Q. How would you characterize the imported water dilution from the rainwater dilution? Can we pick up the difference between the two? If my well water is 10% imported water, then 90% of the dilution is coming from natural, high rainfall.
A. Taraszki: Yes, chemically we can determine the dilution. Dilution from rainfall occurs everywhere, while imported water dilution will be focused near recharge ponds. Silty soils slow down perchlorate. It is hard to say the effect that increased rainfall on perchlorate concentrations. They could go up or down. We are not seeing seasonal trends/changes in concentration with rainfall.

Q. Where are the monitoring wells that MACTEC installed and where are sites that you are cleaning up?
A. Mr. Taraszki pointed out monitoring well locations on the map. He explained that the monitoring wells are not for clean up, they are to evaluate where the perchlorate is, in order to develop a cleanup plan. We are currently in characterization mode; we are working on feasibility studies that will address how we start the clean-up process.

Q. I've been drinking contaminated water for 40 years. How does that affect my health?
A. Taraszki: Can't answer that. There are 14 wells with wellhead treatment.

Mr. Taraszki showed perchlorate concentrations using "dot maps" of non-detect results, 4-6 ppb perchlorate and concentrations greater than 6 ppb.

Q. What time frame do the dots represent?
A. Taraszki: Current quarter data – 1st quarter 2006

Q. What is the eastern boundary?
A. Taraszki: Foothill.

Mr. Taraszki went over the upcoming schedule of reports. The Cleanup Feasibility Study, due 6/30/06, will focus on Areas II, III, and IV. The Plume Migration Control Feasibility Study, due 8/31/06, will focus on Area I. There are quarterly monitoring reports and a Final Characterization Report is due 1/31/07.

Q. When will cleanup start?
A. Taraszki: Don't have an answer. It is an iterative process.

Q. Does the feasibility study include costs evaluation?
A. Taraszki: The feasibility does include some costs associated in a scorecard type approach to determine the best approach.

Q. Has the plume characterization changed much?
A. Taraszki: We have had a big drop in the number of wells above 6 ppb over the last 2 years. Now, we have less than 50 wells that are affected. A big part of the change is due to dilution. Plume may be a little smaller.

Q. In the last quarterly report, there is a description on the capacity of the aquifer. Has the capacity changed?
A. Taraszki: Not aware of any change.

Q. When did Olin stop production on this site?
A. Taraszki: Olin operated from 1956 to 1994

Q. There were 12 years in there, between Olin's stopping production and the testing of the area. Water was imported the whole time. Why has there been a big drop in concentrations now?
A. Taraszki: Testing didn't start until 2000, when perchlorate was an emerging contaminant and testing methods improved. In 2000, perchlorate was detected in the shallow water. It took a few years to discover how much of a problem there is. Not sure why the big change in concentrations now or what the future holds.

Q. When did the waste start being taken off site?
A. Thomas Mohr, SCVWD: Early 1970s, waste was being hauled offsite.

Q. Perchlorate doesn't bond to soil. Does it bond to anything?
A. Taraszki: Not really.

Q. If the waste has been hauled off in the last 20-30 years, is there still a source of contamination causing high concentrations in the shallow zone?
A. Taraszki: Olin has been testing that soil. The silt and finer grain particles contain the perchlorate; acting like a sponge that slowly leaches out the perchlorate.

Q. It doesn't appear that concentrations are decreasing with depth?
A. Taraszki: The red on the map is anything over 24.5 ppb perchlorate. The concentrations in the shallow zone are much higher than the deep zone, even though they both show red.

Audience Comment: Nitrate concentrations are 45,000 times higher than perchlorate.

Ms. Hamilton reminded the audience that all the reports are in the repositories and on the websites.

C. **Bottled Water – Hector Hernandez, Regional Water Quality Control Board**

Mr. Hernandez explained how we got to the point of Olin being able to discontinue bottled water service. The role of the Regional Water Quality Control Board is to make sure that Olin is following the criteria for clean-up, providing bottled water and quarterly reporting as stated by the State of California. The Regional Water Board issued an Order in mid-2004 that required Olin to provide bottled water for wells over 4 ppb. Olin submitted an appeal, because the Public Health Goal had been established at 6 ppb. The State Water Resources Control Board overrode the Regional Water Board and allowed termination for wells at and below 6 ppb perchlorate. The State Water Board Order specified that Olin continue to provide water to everyone for at least 4 consecutive quarters after the order (which was 5/2005). After that period, if the parts per billion were 6 ppb or under, it was at Olin's discretion to cease water supply to those customers.

That is where we are at now. Olin has completed four consecutive quarters of monitoring and sent a letter to bottled water customers saying they may terminate bottled water deliveries.

The Regional Water Board is reviewing all the data to ensure the State Water Board criteria are achieved. They also prepared a fact sheet on how well users can check their wells results and what the 6 ppb level means. People will need their well number to look at their data. The available copies of the fact sheet were distributed and the internet site and contact information were typed onto the projector.

ftp:/swrcb2a.swrcb.ca.gov/pub/rwqcb3/0lin Perchlorate/Bottled Water Termination/

Olin Hotline: 800-295-6141

Water Board: 805-542-4776

Q. Presumably – Olin is in charge of testing my well. In the last year I have only been contacted 1 time. How do I trust that they have tested my well 3 other times when I have only seen them once?
A. Hernandez: Yes, they are (in charge of testing your well). There is a specific protocol. MACTEC is the consultant who has been hired to sample on behalf of Olin. They use a certified lab. The Regional Water Board oversees the protocol.

Q. Who does the Chain of Custody?

A. Taraszki: A MACTEC tech goes to the well, after gaining access. They sample from the well, or hose, or sink, before treatment. Once they get the sample, the sample is sealed and labeled per chain of custody. After the sample is collected, it goes to lab for testing. Results then go to MACTEC, where the results are validated. MACTEC then gives a report to RWQCB, in the quarterly monitoring reports (Appendix B). Olin will notify the resident of the results. Normally, one sample is collected at a time; duplicate samples are periodically collected for quality control purposes.

Q. I've only gotten one result. Will there be future testing?

A. Hernandez: Yes, depending on concentration. The duration and frequency of future testing varies, depending on concentration. If the well is between 5 – 6 ppb, the monitoring will be bimonthly. After four samples, Olin will do a trend analysis. Future monitoring will be based on trend. If the well is measured between 4-5ppb, monitoring will be semi-annually for two years. Future monitoring will be based on trend analysis. Wells that are below 4 ppb but within 500 feet of a well with a concentration above 6 ppb, will be sampled at least three times.

Q. I have four tests results, but they are not from 4 (different) quarters. They are from a 23-week period (8/16/05, 9/23/05, 10/11/05, and 1/31/06). And, the numbers are increasing.

A. Hamilton: That's why we want you here; so we know these kinds of things and can work with you to resolve them.

Q. Has everyone received all 4 quarters of testing results?

A. A show of hands indicated that not everyone had received 4 quarters of results.

Q. Does the Regional Water Board do in-house verification tests?

A. Hernandez: No, they are only determining that the criteria in the Order have been met.

Q. Could an in-house laboratory find the same statistical results?

A. Hernandez: Regional Water Board is looking at the statistics.

Q. What recourse do we have if the criteria is not met (less than 4 consecutive quarters, no reports)?

A. Curt Richards, Olin Corp.: Olin Corporation did not set the standard. The California Department of Health Services sets the standard and it is not an enforceable standard at this point. There is no enforceable standard. The Federal government uses 24.5 ppb. California uses 6 as the Action Level. Olin is abiding with the Action level, even though it is not enforceable. He's not aware of anyone drinking water above 6 ppb and intends to continue providing water to those with wells above 6 ppb. The database has 1000 wells. We're triple checking and the Regional Water Board is checking. We try to make sure there are no errors. If there is an error, contact the Regional Water Board or Olin. Also, we are continuing to provide bottled water if there is an increasing or probably increasing trend, even though it is not required.

Q. What if I am cut off? Why isn't the Regional Water Board requiring continued bottled water until the results are non-detect?

A. Richards: We will monitor in accordance with the State Water Board's Order.

Q. Is there a way to change the order by the State?

A. Hernandez: No, the orders are State issued. Olin and the RWQCB can only act within those orders. The only responsibility that Olin and the RWQCB have is to those orders. They cannot be changed.

Eric Gobler, Regional Water Board: The Regional Water Board wanted a better safeguard than the PHG; that is why we issued an Order for a 4 ppb level for bottled water. The State Water Board ordered the Regional Water Board to change our Order to 6 ppb. The Regional Water Board can't change that order. Sylvia [Hamilton] and others went to the State Water Board to try and change it. We agree with the community. We will ensure that Olin complies with the Order, but our hands are tied on the level.

Q. Would you consider doing some split testing, since we found variations between labs?

A. Mohr: There is margin of error of plus or minus 20% on the lab work. To really distinguish between labs, need two samples of the same water. A Bakersfield lab, the SCVWD lab and Sequoia will all be testing a sample collected earlier today. Variation is part of the picture.

Audience Comment: This isn't the first time that a lack of test results has been brought up. Recommend that Olin send out the results with the bottled water termination letters.

A. Richards: Olin sent out 600 letters. 50 letters came back. He can say that they have four quarters of data for everyone whose water is being discontinued.

Q. Who appoints RWQCB members?

A. **Gobler:** State Board members are appointed by the governor and confirmed by the Senate.

Q. Can I find out the well info from someone else's well without a well number?

A. **Hernandez:** No, due to confidentiality issues.

Q. Mr. Richards says we wouldn't receive a letter if we don't meet criteria, but some wells don't (23 weeks of sampling, increasing results). What is our recourse?

A. Gobler: Please let Regional Water Board staff know about any errors.

Richards: Trends are determined by using statistical analyses.

Q. Are they any statistics on long-term health efforts of drinking water at 4 or 6 ppb? What are the health risks, even at 4 ppb?

A. **Richards:** There is no drinking water standard in California at this point. Chilean studies of women exposed to high concentrations of perchlorate from Chilean fertilizers determined that 250 ppb was safe. A U.S. Air Force study determined that 200 ppb is safe. The National Academy of Sciences found that 24.5 ppb is safe. Until the 1990s, 400 ppb was an accepted national standard. As a measure of good faith Olin decided to stick to California's Public Health Goal standard of 6 ppb

D. ***RWQCB Update – Eric Gobler*:** The Regional Water Board is well aware of bottled water concerns and will continue to work with Olin, SCVWD and local people to address these issues. Sylvia stressed that if anyone has any concerns or questions to please contact one of the RWQCB staff.

The Feasibility Report from Olin is due tomorrow 6/30/2006. The Regional Water Board will be having a hearing to discuss the cleanup level for the Olin case on September 8, 2006, in Monterey. Groundwater cleanup is just as important to the Regional Water Board as safe drinking water.

Sylvia again reiterated that we can only represent you if we know your concerns. Please get involved and invite your neighbors.

IV. **Next Meeting** – Friday, August 4th from 2- 4 pm. In response to audience comment, Sylvia acknowledged that afternoon meetings are difficult for some people, but the Lions Club is hard to reserve. She encourages people to talk with their neighbors and to keep each other informed.

Meeting was adjourned at 9:10 p.m.

Minutes submitted by Michelle Lloyd/Tracy Hemmeter